



SVENSK STANDARD

SMS SVERIGES MEKANSTANDARDISERING

SMS-ISO 3208

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BILAR – BEDÖMNING AV UTSKJUTANDE DELAR I PERSONBILAR

Denna standard utgörs av den engelska versionen av den internationella standarden ISO 3208–1974, Road vehicles – Evaluation of protrusions inside passenger cars.

ROAD VEHICLES – EVALUATION OF PROTRUSIONS INSIDE PASSENGER CARS

This Swedish Standard consists of the English version of the International Standard ISO 3208–1974, Road vehicles – Evaluation of protrusions inside passenger cars.

Road vehicles — Evaluation of protrusions inside passenger cars

1 SCOPE

This International Standard specifies a test method for the determination of the significance of the protrusion of controls and other devices situated inside a passenger car and also of their ability to retract, compress or become detached under the effect of a force.

In addition it specifies the apparatus to be used for this purpose.

2 FIELD OF APPLICATION

This International Standard is applicable only to those controls and other devices such as buttons, levers, etc., in rigid material (at least 50 IRHD¹⁾ hardness) forming a protrusion and situated in the reference zone defined in the annex.

3 REFERENCE

ISO 48, *Vulcanized rubbers — Determination of hardness (Hardness between 30 and 85 IRHD)*.

4 TEST APPARATUS

4.1 General

This apparatus is intended to measure the significance of protrusions and the force necessary to cause them to retract, compress or become detached. These two measurements may also be made by two separate devices.

4.2 Description

The protrusion measurement device shall consist of a 165 mm diameter hemispherical headform within which shall be a 50 mm diameter flat-ended sliding piston (see the figure). The force application device shall have a system of force measurement.

4.2.1 The relative positions of the flat front face of the piston and the leading edge of the headform shall be shown on a graduated scale on which a moving index shall retain the maximum reading when the device is removed from the test specimen. The range of measurement shall be at least 30 mm graduated in 0,5 mm; reference protrusion values may be marked on the scale as desired.

4.2.2 The apparatus shall be provided with a system of measuring the angle of application relative to the horizontal. The range shall be 0 to 90° with an accuracy of 1°.

4.2.3 The application of the force shall be made through the piston independently of the headform. This force shall be recorded on a scale graduated from 0 to 50 daN; the accuracy of measurement shall be at least 0,5 daN.

4.3 Calibration

4.3.1 Protrusion scale

Present the device to a flat surface such that the axis of the device is normal to the surface.

With the flat front face of the piston in contact with the surface, zero the protrusion scale.

Insert a 10 mm distance piece between the piston face and the surface and check that the protrusion scale shows this reading.

4.3.2 Force scale

Check the force scale by the application to the piston of forces of 30 and 40 daN.

5 TEST PROCEDURE

This procedure is applicable only to protrusions in the zone called "Reference zone". (See definition in the annex).

5.1 Measurement of protrusions

Withdraw the piston to form a recess in the headform and set the moving index in contact with the piston.

Apply the device to the protrusion to be measured in such a way that the headform is in contact with the maximum possible surface area of surrounding material, with a force not exceeding 2 daN.

Push the piston forward until it comes into contact with the protrusion to be measured and read the protrusion measurement on the scale.

Orient the headform so as to obtain the maximum protrusion. Read the value of this protrusion.

1) See ISO 48.

5.2 Measurement of the force of retraction, compression or detachment

Set the headform as indicated in 4.1 so as to obtain the maximum protrusion. Apply a continuous and progressive force on the piston. Check that before the reference load is reached, the protrusion is retracted, compressed or detached and that the length of the remaining protrusion is less than the reference value.

5.3 Controls in close proximity

If two or more controls are located sufficiently close

together to be simultaneously contacted by the piston or headform they shall be treated as follows :

5.3.1 Multiple controls which can be accommodated simultaneously within the headform recess shall be treated as one protrusion and the total force for compressing all of them shall not exceed the reference force.

5.3.2 Where normal testing is prevented by other controls coming into contact with the headform, these shall be removed and testing carried on without them. They shall then be replaced and tested in turn with other controls removed as required to facilitate this.